

USSR

PROKHOROV, V. Ya., et al., Zhurnal Mikrobiologii, Epidemiologii i Immune-biologii, No 9, 1971, pp 63-68

after causing a pyoderma in the fourth month persisted until the end of the experiment. Prolonged isolation apparently lowers human resistance to infection and creates favorable conditions for the growth of Staphylococci.

2/2

- 66 -

Physiology

USSR

UDC 576.851.252.095.10

PROKHOROV, V. Ya., SHILOV, V. M., AKATOV, A. K., and PARCHENSKAYA, I. A.,
Institute of Medical Biological Problems and Institute of Epidemiology and
Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Activation of the Biological Properties of Staphylococci Isolated From
Humans During a Prolonged Stay in a Hermetically Sealed Chamber"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971,
pp 63-68

Abstract: Staphylococci were periodically isolated from three people confined to an airtight chamber for a year to study the biological properties of the microorganisms and determine whether the microbes could be exchanged between the subjects. Various strains of the same phage type (29/52) showed increased biological activity in the course of the year as manifested by a regular increase in the titers of alpha-toxin, appearance of fibrinolysin and beta-toxin not detected at the beginning of the experiment, and much greater virulence for mice. Before the experiment, Staphylococci of the phage type 29/52 were isolated from two of the subjects, but they were transmitted to the third subject at the beginning of the second month and 1/2

USSR

AKATNOV, N. I., KUZNETSOV, A. P., Leningrad

"Equation of Energy Balance for Turbulent Pulsations in the Theory of a Free Turbulent Boundary Layer"

Moscow, IAN SSSR, Mekhanika Zhidkosti i Gaza, No 6, Nov/Dec 70, pp 75-79

Abstract: Semiempirical formulas are proposed for the coefficient of turbulent viscosity and the scale of turbulence which appear in the system of equations of a free turbulent boundary layer in an incompressible fluid where this system includes equations of continuity, motion, and balance of the average energy of turbulent pulsations. An advantage of this formula over others is that the two empirical constants which are a part of the system of equations have close values for circular and plane turbulent jets, and also for a turbulent boundary layer on the edge of a semi-infinite uniform flow with a stationary fluid. The distributions of average velocity and average energy of turbulent pulsations calculated in the work agree satisfactorily with experimental data.

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USSR

UDC 532.517.4

AKATNOV, N. I., TULVERT, V. F.

"Turbulent Flow of a Liquid in an Anisotropic-Rough Channel"

Tr. Leningr. politekhn. in-ta (Works of the Leningrad Polytechnical Institute), 1970, No 313, pp 92-97 (from RZh-Mekhanika, No 10, Oct 70, Abstract No 10 B842)

Translation: This article contains an investigation of the problem of leaking of a liquid in the gap between two parallel flat plates 2a long and 2b wide. The current is created by sources located continuously in the midplane perpendicular to the plate. The boundary layer equations for the steady-state turbulent flow are averaged across the gap. The solution is found under the assumption that the channel walls are rough, and the coefficients of friction c_x and c_z along the coordinate axes are given. It is demonstrated that the pressure distribution along the plates is determined by the value of the parameters a/b and c_x/c_z . The relations found in the quadratures are presented for varying the pressure along the plates.

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USSR

UDC 532.517

AKATNOV, N. I., TULVERT, V. F.

"Turbulent Flow of a Liquid in an Anisotropically Rough Channel"

Trudy Leningradskogo Politekhnikeskogo Instituta, Aerotermodinamika
(Works of the Leningrad Polytechnical Institute, Aerothermodynamics),
No 313, 1970, pp 92-97

Translation: In this paper the theoretical solution is obtained for the problem of turbulent isothermal flow of a liquid in the gap between anisotropically rough plates parallel to each other. When solving the problem, the equations of turbulent lubrication are used, and the quadratic law of resistance on rough walls is assumed. The pressure distributions in the clearance and the distribution of the velocity vector averaged with respect to the channel height are found. The relation is obtained for the liquid flow rates in the channel in two mutually perpendicular directions as a function of the ratio of the resistance coefficients of the channel in these directions. There is 1 illustration and a 3-entry bibliography.

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2/2 032

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--420101732

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS GIVE THE MEASUREMENTS OF THE LAYER OF THE "HALF DOSE" FOR ROENTGEN RADIATION (EFF 15-25 KCV) FOR THE PURPOSE OF SELECTION OF UNIVERSAL REGIMES OF IRRADIATION OF NEOPLASTIC DISEASES OF THE SKIN. THE TISSUE EQUIVALENCE OF PARAFFIN AND WAX WAS EVALUATED. THE AUTHORS DISCUSS THE ERRORS IN MEASUREMENT OF THE DOSE AND "LAYER OF HALF DOSE WEAKENING" ASSOCIATED WITH THE ENERGY DEPENDENCE OF IONIZATION CHAMBERS IN PHANTOM MEASUREMENT.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--MEASUREMENT OF THE LAYER OF HALF DOSE WEAKENING IN SHORT DISTANCE X
RAY THERAPY -U-
AUTHOR--AKATKIN, O.A., POZDNYAKOV, G.YE.
COUNTRY OF INFO--USSR *A*
SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 3, PP 57-59
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--X RAY RADIATION BIOLOGIC EFFECT, IONIZATION CHAMBER, RADIATION
MEASUREMENT, SKIN DISEASE, NEOPLASM, PARAFFIN WAX
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY PEEL/FRAME--1935/1677 STEP NO--UR/0241/70/015/003/1957/0054
CIRC ACCESSION NO--AP0101732
UNCLASSIFIED

AKANOV, E. N.

space biology

50 JPRS 53300
17 Jun 71

UDC 629.75.045:581.12

ANALYSIS OF OXYGEN PRODUCTIVITY OF PLANT CONVEYERS WITH DIFFERENT INTERVALS

(Article by Ye. V. Lebedeva, L. V. Dmitriyeva, and E. N. Akanov, Moscow, Koshchevskaya Biologicheskaya i Meditsinskaya, 1971, No 1, 1971, pp 25-29, submitted for publication 14 August 1970)

Abstract: Several approaches to the management of conveyor plantations in the cultivation of higher plants in bioregenerative life support systems are discussed. It is shown that oxygen production by the conveyor plantation method is sufficiently uniform if the conveyor interval is not over one-eighth of the total time of plant cultivation in the area of the planting. A reduction of the cultivation period may increase the total amount of oxygen produced.

One of the principal requirements imposed on the link of higher plants in a biological life support system is the continuous reproduction of oxygen and food. This requirement can be satisfied only by the creation of a constantly operating plantation occupied by plants of different ages (conveyor belt).

In order for the conveyor belt to be effectively used it is necessary to make a proper determination of the time intervals between successive collections of the harvest (conveyor interval) and the age at which it is most advantageous to harvest the plants.

The principal relationships whose analysis makes it possible to determine the values of these parameters are: degree of nonuniformity in the release of oxygen from the conveyor as a function of the conveyor interval; the quantity of oxygen and plant material received from the entire sown area as a function of age of the harvested plants. These relationships can be computed from the corresponding characteristics of plantings of the same age. Below we give examples of such computations and an analysis of their results.

USSR

MEYMANEV, B. A., et al., *Radiofizika elektroniki*, No. 2(12), 1972, pp. 1-10.

of popular radiation into the field of propagation of electromagnetic waves in scattering. The author thanks A.Z. Grigoryev for critical comments and assistance in the work. *Fig. 2* not received by editors, by Dec 1972. *Received* 10 July 1972.

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USSR

UDC 621.37

AKHAYEV, E.A., FELDICH, M. K., TEPLOVODNO, V.P., KOLBACHIK, P.I.

"On Stimulated Combination Scattering in SiF_4 "

Kvantovaya elektronika (Soviet Electronics), Moscow, No. 1(2), 1977, p. 101.

Abstract: The preliminary results are presented of an experimental study of the processes of stimulated combination (Raman) scattering in SiF_4 at room temperature and a saturating vapor pressure of 20 Pa/cm². It is noted that SiF_4 was selected as an object of study because this substance has a number of properties which are adverse when doing experiments: low refractive index, stability and instability, high electric strength, rather pronounced nonuniformity in the visible and infrared regions of the spectrum, etc. In addition, a modulated flow of light and one flow of amplification are obtained from one source. The system made it possible to obtain a combination of light waves, with an energy density of 5 J/cm², which corresponds to a level of conversion with respect to a level of light absorption of 10%. The results of stimulation through a of the light are reported. Scattering of light at 10 and 25 Pa/cm², respectively. Scattering is observed at 10 and 25 Pa/cm².

1/2

USSR

UDC 542.91:547'1'118

AKAMSIV, V. D., YELISEYENKOVA, R. M., and KIZPOLOZHENSKIY, N. I., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzova, Academy of Sciences USSR

"Esters of the Thioacids of Trivalent Phosphorus. Part 12. Esters of Ethyl(Phenyl- β -cyanalkylthiolphosphinic and Ethyl(Phenyl)- α -ketoalkylthiolphosphinic Acids"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, 1, Jan 73, pp 80-84

Abstract: A study was made of the reaction of acyl chloride esters of thio-phosphonic acids (I) with α,β -unsaturated nitriles of acrylic and methacrylic acids in the presence of thioacetic acid, acetic acid, and water result in the formation of the esters of the alkyl(aryl)- β -cyanalkylthiophosphinic acids (II); but with thioacetic acid as the proton donor, the products are the esters of the β -cyanalkyldithiophosphinic acids. The reaction of (I) with α,β -unsaturated ketones and acrylonitriles in the presence of water resulted in the formation of the esters of ethyl(phenyl)- α -ketoalkylthiol-phosphinic acid or of (II).

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USSR

UDC: 542.91-661.718.1

RIZPOLOZHENSKIY, N.I., AKAMIN, V.D., DOSOVA, T.M., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Esters of Thioacids of Trivalent Phosphorus. Report 9. Amido Esters of Phenylthiophosphonous Acid"

Moscow, Izvestiya Akademii Nauk SSSR: Seriya Khimicheskaya, No 3, Mar 70, pp 622-625

Abstract: Continuing their investigation of the properties of trivalent phosphorus thioacid derivatives, the authors present data on the synthesis and some chemical properties of amido esters of phenylthiophosphonous acid. The esters are synthesized by the reaction of acid chloride esters of phenylthiophosphonous acid with dialkylamines. The products are oxidized by nitrogen oxides to give S-alkyldialkylamidophenylthiophosphonates. Amido esters of phenylthiophosphonous acid attach sulfur and selenium to form S-alkyldialkylamidophenyldithiophosphonates and S-alkyldialkylamidophenylthioselenophosphonates. The atomic refraction of selenium in S-alkyldialkylamidophenylthioselenophosphonates is 14.70.

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USSR

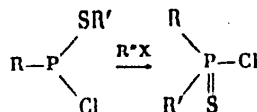
UDC: 542.952-661.718.1

RIZPOLOZHENSKIY, N.I., AKAMIN, V.D., Institute of Organic and Physical Chemistry
imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Regrouping of Thiophosphonyl Chloride Esters into Thiophosphinous Acid Chlorides"

Moscow, Izvestiya Akademii Nauk SSSR: Seriya Khimicheskaya, No 3, Mar 70, p 728

Abstract: It was found that thiophosphonyl chloride esters undergo Arbuzov re-grouping under the effect of catalytic quantities of alkyl halides to form thiophosphinous acid chlorides.



Propylphenylthiophosphinous acid chloride was synthesized by heating propylthiophenylphosphonyl chloride with methyl iodide, and diethylthiophosphinous acid chloride was produced in an analogous reaction between ethylthioethylphosphonyl chloride and methyl iodide. The physical and chemical constants of the resultant chlorides are given.

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2/2 012

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136771

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. PHENYLDICHLOROPHOSPHINE REACTS WITH ALKYLMECAPTAINS TO FORM ALKYLTHIOPHENYLCHLOROPHOSPHINES. THE LATTER REACT WITH AMINES IN THE ABSENCE OF BASE TO FORM THIOESTERAMIDES OF PHENYLPHOSPHONOUS ACID, WHICH ARE OXIDIZED BY NITROGEN DIOXIDE TO THE CORRESPONDING PHOSPHONATE ESTERS. FACILITY: INSTITUT ORGANICHESKOY I FIZICHESKOY KHIMII IMENI A. YE. ARBUZOVA, AN SSSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--THIOESTERS WITH TRIVALENT PHOSPHORUS -U-
AUTHOR-(03)-RIZPOLOZHENSKIY, N.I., AKAMIN, V.D., DOSOVA, T.M.
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA KHIMICHESKAYA, 1970, NR 3, PP
622-625
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, MERCAPTAN, AMIDE, ESTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/1435

STEP NO--UR/0062/70/000/003/0622/0625

CIRC ACCESSION NO--AP0136771

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136706

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. PHENYLDICHLOROPHOSPHINE REACTS WITH ALKYL MERCAPTAINS TO FORM ALKYLTHIOPHENYLCHLOROPHOSPHINES. THE LATTER REACT WITH AMINES IN THE ABSENCE OF BASE TO FORM THIOESTERAMIDES OF PHENYLPHOSPHONOUS ACID, WHICH ARE OXIDIZED BY NITROGEN DIOXIDE TO THE CORRESPONDING PHOSPHONATE ESTERS. FACILITY: INSTITUT ORGANICHESKOY I FIZICHESKOY KHIMII IMENI A. YE. ARBUZOVA, AN SSSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--THIOESTERS WITH TRIVALENT PHOSPHORUS -U-
AUTHOR--(03)-RIZPOLOZHENSKIY, N.I., AKAMSIN, V.D., DOSOVA, T.M.
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA KHIMICHESKAYA, 1970, NR 3, PP
622-625
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--MERCAPTAN, ORGANIC PHOSPHORUS COMPOUND, PHOSPHORUS SULFIDE,
AMIDE, SELENIUM COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1318 STEP NO--UR/0062/70/000/003/0622/0625
CIRC ACCESSION NO--AP0136706
UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0124476
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REACTION OF EQUIMOLAR AMTS. SHOWN
ON MICROFICHE. FACILITY: INST. ORG FIZ. KHIM. IM. ARBUZOVA,
KAZAN, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ESTERS OF PHOSPHORUS III THIO ACIDS. 9. AMIDO ESTERS OF
PHENYLTHIOPHOSPHONOUS ACID -U-
AUTHOR-(03)-KIZPOLOZHENSKIY, N.I., AKAMIN, V.D., DOSOVA, T.M.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 622-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--AMIDE, MERCAPTAN, ORGANIC PHOSPHORUS COMPOUND, ESTER, ORGANIC
SYNTHESIS
CTRL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0807 STEP NO--UR/0062/70/003/003/0622/0625
CIRC ACCESSION NO--AP0124476
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--APO124435

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE FOLLOWING ARBUZOV TYPE REARRANGEMENT WAS DESCRIBED FOR THE FIRST TIME FOR RPCLSR PRIME1, WHICH UNDER THE INFLUENCE OF CATALYTIC AMTS. OF ALKYL HALIDES R PRIME2 X FORM RR PRIME1 P(S)CL. THUS, 24.4 G PHP(S)PRICL AND 5 DROPS MEI IN A SEALED TUBE HEATED 10 HR AT 280DEGREES GAVE 62PERCENT PRPHP(S)CL, 8 SUB0.02 91-3DEGREES, N PRIME20 SUBD 1.5932, D PRIME20 1.1879. ETP(SET)CL AND MEI HEATED 14 HR AT 170DEGREES GAVE 54PERCENT ET SUB2 P(S)CL, 3 SUB10 92-3DEGREES, 1.5316, 1.1462. FACILITY: INST. ORG. FIZ. KHIM. IM. ARBUZOVA, KAZAN, USSR.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--REARRANGEMENT OF THIOPHOSPHONOUS ACID CHLORIDE ESTERS INTO
THIOPHOSPHINIC ACID CHLORIDES -U-
AUTHOR-(02)-KIZPOLOZHENSKIY, N.I., AKAMIN, V.D.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 728

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, ORGANIC SULFUR COMPOUND,
INTRAMOLECULAR MECHANICS, ESTER, CHLORINATED ORGANIC COMPOUND, ACID
CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0765

STEP NO--UR/0062/70/000/003/0128/0128

CIRC ACCESSION NO--AP0124435

UNCLASSIFIED

USSR

UDC 542.91 + 661.718.1

RIZPOLOZHENSKIY, M. I., AKAMISIN, V. D., and YELISEYENKOVA, R. M.,
Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov,
Acad. Sc. USSR

"Reaction of Dihalo phosphines With Allylmercaptan"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1,
Jan 71, p 198

Abstract: Alkyldihalo phosphines react with allylmercaptan yielding allylalkylthiophosphinic acid halides. To 33 g ethyldibromophosphine in 30 ml CH_2Cl_2 11.1 g allylmercaptan was added dropwise in an inert atmosphere, followed by 5 hr under reflux. After distillation of the reaction mixture allylalkylthiophosphinic acid bromide was obtained, b.p. 122-123°/12 mm, n_D^{20} 1.5796, d_4^{20} 1.4196. Analogously allylchloromethylthiophosphinic acid chloride was obtained, b.p. 112-114°/12 mm, n_D^{20} 1.5796, d_4^{20} 1.3267.

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USSR

BEL'SKIY, V. Ye., et al, Doklady Akademii Nauk SSSR, Vol 197, No 1, March-April 1971, pp 85-87

always occur. The mechanism of this effect is discussed, the experimental procedure is presented, and tables of values are given for the activation energy E and the pre-exponential factor A in the equation $K = A \exp (-E/RT)$ for the reaction with OH^- -ion, and the hydrolysis rate constants of KOH .

A definite tendency toward an increase in absolute magnitude of the pre-exponential factor is noted on the replacement of oxygen atoms by sulfur in phosphonates. If it is considered that nucleophilic substitution on the phosphorus requires the formation of a pd -bond in the activated complex, the increase in the pre-exponential factor indicates high availability of the d -orbitals of phosphorus in the thio-derivatives for nucleophilic attack.

2/2

UDC 541.127.3:542.938:547.26'118

USSR

BEL'SKIY, V. Ye., BEZZUBOVA, N. N., ~~AKHMSIN, V. D.~~, YELISEYENKOV, V. N.,
RIZPOLOZHENSKIY, N. I., and PUDOVIK, A. N., Corresponding Member of the
USSR Academy of Sciences

"Reactivity of Phosphonic Acid Esters and Their Thio-Analogs in Alkaline
Hydrolysis"

Moscow, Doklady Akademii Nauk SSSR, Vol 197, No 1, March-April 1971, pp 85-87

Abstract: Nucleophilic substitution on the phosphorous atom decreases on re-
placement of the phosphoryl oxygen by sulfur. This was established as a result
of studying the kinetics of hydrolysis of various esters and acid chlorides of
phosphoryl oxygen. However, it still remained unclear whether the reaction
rate changed to an equal extent on replacement of the $P=O$ by $P=S$ for a series
of compounds with close structure. This paper contains a study of the kinetics
of alkaline hydrolysis of some esters and thio esters of substituted phosphonic
and thiophosphonic acids. The data obtained permits the conclusion to be
drawn that the change in reactivity on converting from phosphoryl to thio-
phosphoryl compounds essentially depends on the nature of the substitutions
on the phosphorus, and a decrease in the reaction rate constant does not

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USSR

UDC 547.341.07

RIZPOLOZHENSKIY, N. I., and AKAMIN, V. D., Institute of Organic and Physical Chemistry imeni A. Ye. Arbutov

"A Method of Synthesizing Allylalkyl(aryl)thiophosphinic Acid Halides"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 5, Feb 71, Author's Certificate No 292983, Division C, filed 22 May 69, published 15 Jan 71, p 101

Translation: This Author's Certificate introduces: 1. A method of making allylalkyl(aryl)thiophosphinic acid halides. As a distinguishing feature of the patent, an alkyl(aryl)dihalophosphine is interacted with allylmercaptan with the application of heat. 2. A modification of this method distinguished by the fact that the process is done at a temperature of 40-100°C. 3. A modification of this method in which the process is done in an organic solvent such as methylene chloride.

USSR

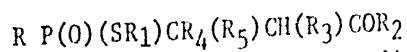
UDC 547.448.341.26'118.07

RIZPOLOZHENSKIY, N. I., and AKAMSIN, V. D., "Order of the Red Banner of Labor" Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov

"A Method of Making Ketothiolphosphate Esters"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 33, Soviet Patent No 284988, class 12, filed 14 Jul 69, published 29 Oct 70, p 25

Translation: This Author's Certificate introduces: 1. A method of making ketothiolphosphate esters of general formula



where R is an alkyl, R_1 and R_2 are hydrocarbon radicals, R_3 , R_4 and R_5 are hydrogen or hydrocarbon radicals. As a distinguishing feature of the patent, thiophosphonous acid chloride esters are allowed to react with α, β -unsaturated ketones in the presence of aliphatic carboxylic acids with subsequent isolation of the products by conventional methods. 2. A modification of this method is distinguished by the fact that acetic acid is used as the aliphatic carboxylic acid.

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USSR

UDC 542.91.547.1'118

STEPASHKINA, L. V., AKAMIN, V. D., and RIZPOLOZHENSKIY, N. I., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Synthesis and Properties of the Glycidyl Esters of Phosphoric Acid. 4
Communication. Synthesis of o-Glycidyl-S,S-dialkyldithiophosphites and Some
of Their Properties"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 72,
pp 380-384

Abstract: Reaction of glycidol with S,S-dialkyldithiochlorophosphite yields O-glycidyl-S,S-dialkyldithiophosphites, b.p. 93-95°/0.008 mm, compounds with unpleasant odor, soluble in organic solvents, insoluble in water. These compounds react with sulfur yielding O-glycidyl-S,S-diethyltrithiophosphate, b.p. 116-117°/0.01 mm, and can be oxidized with nitrogen oxides to thiophosphates. The starting S,S-dialkyldithiochlorophosphites were obtained by the reaction of S-alkylthiodichlorophosphites with mercaptans in presence of a base. S-alkylthiodichlorophosphites were synthesized by reacting mercaptans with phosphorus trichloride. They were found to disproportionate on storage to PCl_3 and S,S-dialkyldithiochlorophosphites. In each series a number of analogues was synthesized, their physical properties being reported.

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USSR

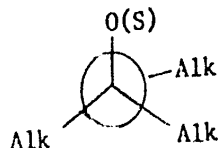
RAYEVSKIY, O. A., et al., Izvestiya Akademii Nauk SSR -- Seriya Khimicheskaya, No 11, 1972, pp 2451-2454

types of conformations there is a defined analogy with the systems containing the P-O bond. The difference in position of the conformational equilibria for the compounds with the alkoxyl and alkthiol groups is explained by the variations and intermolecular interactions. A quantitative evaluation of the factors affecting the stabilization of the transformers indicates a decrease in the resonance component in the alkthiol group by comparison with the alkoxyl group.

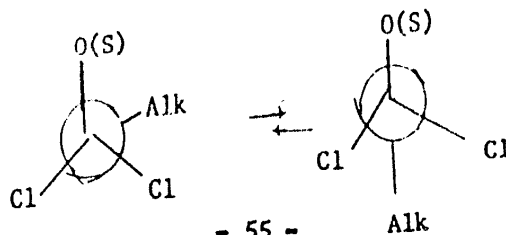
USSR

RAYEVSKIY, O. A., et al., Izvestiya Akademii Nauk SSR-- Seriya Khimicheskaya, No 11, 1972, pp 2451-2454

equilibrium was established for compounds (III) and (IV). The population of conformers in the nonpolar environment is 0.8 gosh and 0.2 trans. No clear spectral signs of isomer equilibrium were observed for compounds (I) and (II). The similarity of the experimental values of the dipole moments of these compounds calculated for the gosh-form indicates that this form is stabilized. These data indicate the energy advantage of the gosh-conformer in the case of alkyl



substitutions on phosphorus and realization of the thermodynamic equilibrium of the gosh and trans-form for the dichloranhydrides. With respect to the



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USSR

UDC 539.183.4+541.6:547.1'118

RAYEVSKIY, O. A., AKAPIN, V. D., KHALITOV, F. G., DONSKAYA, YU. A., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov of the USSR Academy of Sciences

"Dipole Moments and Conformations of Some Phosphorus Thioacid Derivatives"

Moscow, Izvestiya Akademii Nauk SSR -- Seriya Khimicheskaya, No 11, 1972, pp 2451-2454

Abstract: Results have been presented previously from conformational investigation of systems containing the P-O bond (O. A. Ratevskiy, et al., Izv. AN SSSSR, Ser. khim., 1725, 1970; O. A. Ratevskiy, et al., Izv. AN SSSSR. Ser. khim., 2177, 1971; O. A. Rayevskiy, et al., Izv. AN SSSSR. Ser. khim., 348 1972). Identification of the conformers and analysis of the factors causing energy stability of the conformers made it possible to evaluate the role of such interactions as the van der Waal's and Coulomb forces and the mutual orientation of the bonds. An analogous study has now been made of systems containing the P-S bond and the results are compared with the previous studies of the P-O bond. The dipole moments were measured for the propyl ester of diethylthiolphosphonic acid (I), the propyl ester of diethyldithiophosphonic acid (II), the dichloranhydride of methylthiolphosphoric acid (III) and the dichloranhydride of methylthiophosphoric acid (IV). A version of gosh-trans

1/3

USSR

UDC 542.91:547.1'118

YELISEYENKOVA, R. M., RIZPOLOZHENSKIY, N. I., and AKAMISIN, V. D., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Kazan' Branch of the Academy of Sciences USSR

"Esters of the Trivalent Phosphorus Thioacids. Communication 15. Reaction of Thiophosphonous Acid Chlorides and Thiophosphorous Acid Dichlorides With Propargyl Alcohol and Propargyl Mercaptan"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 12, Dec 73, pp 2755-2758

Abstract: Reaction of S-alkylalkyl(aryl)chlorothiophosphonites with propargyl alcohol or propargyl mercaptan in presence of a base leads to the formation of S-alkylalkyl(aryl)allenylthio(dithio)phosphinates which heated with sodium alkoxide are converted to S-alkylalkyl(aryl)propynyl-1-thiophosphinates. Alkyl(aryl)dichlorothiophosphites react with propargyl alcohol forming S-alkyl(aryl)allenylchlorothiophosphonates, while the reaction of ethyldichlorophosphine with propargylmercaptan leads to the formation of ethylallenylchlorothioneophosphate.

USSR

UDC 621.385.6

AKALOVSKIY, I.V., KORNIYENKO, A.I., KUBYSH, A. YA.

"Formation Of Regular Components Of Noise Spectrum Of Microwave Electrovacuum Devices"

Elektron.tekhnika. Nauch.-tekhn. sb. Elektron.SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics), 1972, Issue 5, pp 120-121 (from RZh:Elektronika i yeye primeneniye, No 11, Nov 1972, Abstract No 11A165)

Translation: One of the possible mechanisms is considered for formation of regular components of the noise spectrum of microwave electrovacuum devices in the low-frequency (to 300 kHz) spectrum connected with the formation of oscillating processes in the power supply. 2 ref. Summary.

1/1

- 139 -

USSR

UDC 546.821:669.295:543.53

UZEKOV, A. A., AKALAYEV, G. G., RISKIN, I. V., and LIKHOBABIN, V. A.

"Application of Neutron Activation Analysis for Determination of Some Micro-impurities in Titanium and the Study of Their Behavior in the Process of Corrosion"

Moscow, Zavodskaya Laboratoriya, Vol 38, No 7, 1972, pp 816-818

Abstract: W, Au, Mn, Cu, Mo, Na, and Ta were detected in specimens of technically pure titanium by using the method of nondestructive neutron activation analysis. Quantitative determination in titanium samples weighing 7-10 mg and irradiated with $3 \cdot 10^{13}$ neutr/cm²-sec for 22 hr yielded $1 \cdot 10^{-2}\%$ W, $6 \cdot 10^{-7}\%$ Au, $3 \cdot 10^{-2}\%$ Mn, $1.5 \cdot 10^{-2}\%$ Cu, $2 \cdot 10^{-2}\%$ Mo, and $7 \cdot 10^{-4}\%$ Ta. The possibility was investigated of using the Sc⁴⁷ radioisotope formed in the reaction Ti⁴⁷ (n,p) Sc⁴⁷ for determining the content of titanium in its alloys, as well as for studying the corrosion of titanium. Two tables, 2 figures, 4 references.

1/1

2/2 011

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0132121

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.

1,PHENYL,4,METHYL,6,CHLORO,7,AZAINDOLE (I) REACTS WITH CYCLIC SECONDARY AMINES TO FORM THE NORMAL NUCLEOPHILIC SUBSTITUTION PRODUCTS AS WELL AS, IN CASE OF INSUFFICIENTLY NUCLEOPHILIC AMINES, PRODUCTS OF REDN. AND OXIDN. REACTIONS WERE RUN IN AN AUTOCLAVE AT 250DEGREES, 10 HR WITH 2 MOLES AMINE PER MOLE I. THUS, N,METHYLPIPERAZINE GAVE 27PERCENT 1,PHENYL,4,METHYL,7,AZAINDOLE (II) AND 47PERCENT 1,PHENYL,4,METHYL,6,(4,METHYLPIPERAZINO),7,AZAINDOLE (III), M. 132-30DEGREES. MORPHOLINE GAVE 57PERCENT 6,MORPHOLINO ANALOG OF III, M. 159-60DEGREES, ALONG WITH 8-12PERCENT II. PYRROLIDINE GAVE 91-2PERCENT 6,PYRROLIDINO ANALOG OF III, M. 164-5DEGREES, WHILE REACTION WITH PIPERIDINE GAVE 72-90PERCENT 6,PIPERIDINO ANALOG OF III, M. 119-20DEGREES. THE REACTIONS GAVE 0.8-8PERCENT IV (R SHOWN): 4,METHYLPIPERAZINO, M. 212-15DEGREES; MORPHOLINO, M. 220-2DEGREES; AND PIPERIDINO, M. 206-30DEGREES; THESE WERE PREPD. ALTERNATIVELY BY HEATING III WITH CHLGRANIL IN XYLENE. THUS STRONG AMINES, WITH PKA ABOUT 11, GAVE 90-2PERCENT NORMAL SUBSTITUTION PRODUCT III; A WEAKER AMINE SUCH AS MORPHOLINE (PKA 8.7) GAVE BUT 57PERCENT III, WHILE METHYLPIPERAZINE GAVE BUT 47-8PERCENT III WITH 27PERCENT DEHALOGENATION PRODUCT.

FACILITY: VSES. NAUCH. ISSLED. KHIM. FARM. INST. IM. DROZHNIKI02F, MOSCOW, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--REDOX PROCESSES DURING NUCLEOPHILIC SUBSTITUTIONS IN A SERIES OF
6,CHLORO,7-AZAINDOLES -U-
AUTHOR-(03)-YAKHONTOV, L.N., KRASNOKUTSKAYA, D.M., AKALAYEV, A.M.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(1), 118-20

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--REDOX REACTION, CHLORINATED ORGANIC COMPOUND, INDOLE
DERIVATIVE, HETEROCYCLIC NITROGEN COMPOUND, AMINE, MORPHOLINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3004/1856

STEP NO--UR/0020/70/192/001/0118/0120

CIRC ACCESSION NO--AT0132121
UNCLASSIFIED

USSR

YAKHONTOV, L. N., et al., Khimiya Geterotsiklicheskikh Soyedineniy, No 6,
Jun 71, pp 789-794

N-methylpiperazine it drops to 56%. In the meantime the dehalogenated products
go from 1% to 7-8% to 28% respectively.

USSR

UDC 547.759.3

YAKHONTOV, L. N., KRASNOKUTSKAYA, D. M., ~~AKALAYEV, A. N.~~, PALANT, I. M. and VAINSHTEIN, YU. I., All Union Scientific Chemical-Pharmaceutical Research Institute Imeni S. Ordzhonikidze, Moscow

"Azaindole Derivatives. XXXIX. Reactions of 6-Chloro-7-Azaindolines with Amines"

Riga, Khimiya Geterotsiklicheskih Soyedineniy, No 6, Jun 71, pp 789-794

Abstract: During the reactions of various primary and secondary amines with 6-chloro-7-azaindolines the normal nucleophilic substitution is accompanied by oxidation-reduction processes yielding concurrently dehalogenated products of 7-azaindolines and oxidation compounds -- 6-amino-7-azaindole derivatives. The ratio of the nucleophilic substitution products to the compounds obtained from the oxidation-reduction reaction depends principally on the nucleophilicity of the attacking amine. By selecting properly the amine component the reaction may be directed toward nucleophilic substitution, or toward the oxidation-reduction route. For example, when 1-phenyl-4-methyl-6-chloro-7-azaindoline reacts with basic amines such as pyrrolidine, piperidine, the normal products -- the derivatives of 6-amino-7-azaindoline -- are formed in 90% yield. When morpholine is used instead, the normal product drops to a 64% yield, and with

1/2

USSR

UDC 621.317.444:620.179.143

AFANAS'YEV, Yu. V., and AKADINSKAYA, L. G.

"High-Frequency Film Ferroprobes and Prospects for Their Use"

Moscow, Tr. metrol. in-tov SSSR. VNII metrol. (Transactions of the Metrological Institutes SSSR, All-Union Scientific Research Institute of Metrology), No 140(200), 1972, pp 92-98 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 1, 1973, Abstract No 1.32.1267)

Translation: The expediency of projecting high-frequency ferroprobes on a base of tubular cores, used as ferromagnetic covering with a thickness of 5-10 micron, deposited on the foundation by electrodeposition, is well founded. In such ferroprobes two methods of core activation are used -- transverse and longitudinal. The transmission of the working (carying) frequencies in the area of 100 khertz makes it possible to miniaturize the electronic part of the magnetometers, and also to expand their informational potentialities by means of constant and variable fields down to ten kilohertz. (5 illustrations, 1 table, 8 bibliographic entries)

USSR

UDC 577.15.04 + 577.153

RAKHIMOV, M. M., ALZIKOV, E. I., and YULDASHEV, P. KH., Order of the Labor
Red Banner Institute of the Chemistry of Natural Products

"The Effect of Growth Regulators on the Activity of Lipase. II"

Tashkent Khimiya Prirodnikh Soyedineniy, No 1, 1972, pp 100-103

Abstract: Fatty acids can either inhibit or stimulate the cotton seed lipases, depending on their concentration. At a given concentration some plants may be stimulated, while other would be inhibited. This may be due to different lipases being specific to these plants, or to the differences in concentration specificity governing the inhibitory or stimulating zones. Comparing a series of acid homologs, it was determined that the stimulating activity decreases in the order: phenylbutyric, valeric, δ -phenylvaleric, β -(3-methyl-4-hydroxy)-phenylbutyric acids. The inhibitory activity decreases in the following order: butyric, valeric, γ -phenylbutyric, β -(3-methyl-4-hydroxy)phenylbutyric, and δ -phenylvaleric acids.

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2/2 011

UNCLASSIFIED

PROCESSING DATE--0200CT70

CIRC ACCESSION NO--APC112508

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE OPTIMUM AMT. OF (PHD) SUB2 CO (I) USED TO INCREASE THE THERMAL STABILITY AND MOL. WT. OF POLY(ETHYLENE TEREPHTHALATE) (II) IS 2PERCENT ADDED TO THE POLYMER MELT, WHICH IS THEN KEPT IN VACUO 20 MIN AT 275DEGREES. PROPOSED REACTION SCHEMES EXPLAINING THESE INCREASES INVOLVE BLOCKING END OH GROUPS AND JOINING POLYMER CHAINS BY CARBONATE BONDS, GIVING PHENOL AS A BY PRODUCT. THE SCHEMES ARE SUPPORTED BY USE OF H SUB3 PO SUB4 OR H SUB3 PO SUB3 TO BLOCK THE END OH GROUPS, WHICH REDUCES THE EFFECTIVENESS OF I, AND BY THE INCREASING CO SUB2 H-OH END GROUP RATIO WITH INCREASING MOL. WT. OF II STABILIZED BY I. STABILIZATION BY PHENOXY RADICALS FROM THERMAL DECOMPN. OF I IS SUPPORTED BY LESS EFFECTIVE STABILIZATION BY (PHD) SUB2 CO OR PHENOL.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--HEAT STABILIZATION OF POLY(ETHYLENE TEREPHTHALATE) ACCOMPANIED BY
AN INCREASE IN MOLECULAR WEIGHT -U-
AUTHOR--(03)-VASILYEV, YU.D., KREMER, YE.B., AIZENSHTEIN, E.M.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970 (2) 15-17

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--THERMAL STABILITY, POLYETHYLENE TEREPHTHALATE, MOLECULAR
WEIGHT, CARBONATE, PHENOL, PHOSPHORIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FEEL/FRAME--1992/1514

STEP NO--UR/0163/70/0007002/0015/0017

CIRC ACCESSION NO--AP0112508
UNCLASSIFIED

AP0046627

and washing, the ppt. obtained was fired and weighed again. The content of the glass phase was calcd. The ppt. was then heated in a Pt container with HF on a water bath for 20 min. After filtering, the ppt. was washed, fired, and weighed. The residue contg. corundum and CuAlO_2 was heated with HF with the addn. of HNO_3 for 20 min, filtered, washed, fired, and weighed. The content of corundum was calcd. The filtrate obtained was evapd. with the addn. of H_2SO_4 . The residue was fired and melted with a mixt. of soda and borax (2:1) and dissolved in HCl. Cu was detd. in the soln. The Cu content in CuAlO_2 was calcd. The residue of the other sample of the refractory (1 g) after removing Cu, Cu oxides, and the glass phase was placed in a Pt boat, weighed, fired at 1000° in an O stream for 30-40 min, cooled, and weighed again. The content of CuAlO_2 was calcd. The fired residue was heated with H_3PO_4 for 15-20 min. The amt. of Cu in the soln. was detd. and the content of Cu in CuAl_2O_4 and of $\text{Cu}_2\text{Al}_2\text{O}_4$ in the sample was calcd. The content of mullite in the refractory was calcd. by difference.

W. J. Skorski

4/2

87

19781938

Acc. Nr. **AIZENBERG A.N.** Abstracting Service: Ref. Code: **4R 0131**
AP0046627 CHEMICAL ABST. 4/70

82440y Chemical phase analysis of a high-alumina refractory after service in a copper smelting furnace. Aizenberg, A. N. (Vses. Inst. Ogneupor., Leningrad, USSR). *Ogneupory* 1970, 35(1), 49-52 (Russ). A method for the detn. of the content of Cu aluminates in the glass phase, mullite, and corundum of a high-alumina refractory used in a Cu smelting furnace was developed exptl. Samples of CuAl_2O_4 , mullite, corundum, sheet glass, and glass prepd. from a mixt. of oxides fired at 1650° , of the grain size <0.063 mm were treated with concd. H_3PO_4 , 8-38% HF, 38% HF + HNO_3 , 20% HF + HCl, 13-27% H_2SiF_6 , and (or) HBF₄ for 10-1200 min, at room and elevated temp. The amt. of insol. residue was detd. Sepn. of Cu aluminates by the selective dissolving of the refractory components was unsuccessful. CuAlO_2 fired at 1000° for 30-40 min in an O stream was oxidized to CuAl_2O_4 and CuO. The increase of the wt. of the sample was used as a factor for the detn. of the CuAlO_2 content in the refractory. Products of the oxidn. of the samples contg. CuAlO_2 and CuAl_2O_4 were treated with H_3PO_4 . Total Cu from Cu aluminates was detd. in the filtrate and the CuAl_2O_4 content was calcd. The sample of the refractory (1 g) to be examd. was treated with LiCl, Trilon, H_2SO_4 , and HNO_3 solns., so as to dissolve Cu_2O , CuO, and Cu. After filtering the ppt. was fired in a Pt crucible, weighed, and treated with 27% H_2SiF_6 at 20° for 2 hr. After mixing, filtering,

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REEL/FRAME
 19781937

18

2/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0124643
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THEORY OF MOESSBAUER GAMMA RAY
DIFFRACTION BY MAGNETICALLY ORDERED CRYSTALS CONTG. MOESSBAUER NUCLEI IS
DEVELOPED IN THE BORN APPROXN. FOR CRYSTALS WHOSE MAGNETIC STRUCTURE
INDUCES AN ORDERING OF MAGNETIC FIELDS AT MOESSBAUER NUCLEI, THE
DIFFRACTION PATTERNS EXHIBIT MAGNETIC BRAGG MAX. THE POSITIONS OF THESE
MAX. DO NOT COINCIDE GENERALLY WITH THE POSITIONS OF RAYLEIGH MAX. THE
POLARIZATION OF RADIATION SCATTERED AT BRAGG ANGLES CONTAINS INFORMATION
ABOUT THE ORIENTATION OF THE MAGNETIC FIELDS AT THE MOESSBAUER NUCLEI
RELATIVE TO THE CRYSTALLOGRAPHIC DIRECTIONS. THE EXPRESSIONS FOR THE
POLARIZATION AND COHERENT SCATTERING CROSS SECTION ARE GIVEN IN THE CASE
OF LARGE NUCLEAR ZEEMAN SPLITTING FOR PURELY NUCLEAR SCATTERING.
DIFFRACTION BY ANTIFERROMAGNETIC CRYSTALS IS EXAMD. IN DETAIL. THE
POSSIBILITY OF STUDYING MAGNETIC ORDERING IN CRYSTALS BY MEANS OF
MOESSBAUER DIFFRACTION IS DISCUSSED. FACILITY: ALL UNION SCI.
INST. PHYS. TECH. RADIO-TECH. MEAS., MOSCOW, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--THEORY OF MAGNETIC MOESSBAUER DIFFRACTION MEASUREMENT -U-

AUTHOR-(02)-BELYAKOV, V.A., AIVAZYAN, YU.M.

COUNTRY OF INFO--USSR

SOURCE--PHYS. REV. B 1970, (3) 1(5), 1903-7

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MOSSBAUER EFFECT, GAMMA RADIATION, PARTICLE DIFFRACTION,
CRYSTAL ORIENTATION, MAGNETIC STRUCTURE, GAMMA SCATTERING,
ANTIFERROMAGNETIC MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0984

STEP 10--US/0000/70/001/025/1903/1907

CIRC ACCESSION NO--AP0124643

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70
 CIRC ACCESSION NO--AP0118028
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LANDSCAPES OF ORE DEPOSITS ARE
 DIFFERENT FROM NORMAL LANDSCAPES IN MORPHOL. AND BIOGEOCHEM. PARAMETERS.
 THE GEOCHEM. ANOMALOUS LANDSCAPES ARE CHARACTERIZED BY THE RELATIVELY
 LOW PH OF WATER EXTD. FROM SOILS AND THE ELEVATED CONTENTS OF SO, SUB4,
 PRIME2 NEGATIVE, FE PRIME3 POSITIVE, AND TRACE ELEMENTS (PB, CU, ZN, MO,
 AND AG) IN SOILS AND PLANTS. THE PLANTS ARE DEPRESSED, AND CHLOROSIS IS
 PREVALENT. THE PRESENCE OF CARYOPHYLLACEOUS PLANTS WAS OBSD. IN AREAS
 CONTG. CU MINERALIZATION. THE STEPPE ANOMALOUS LANDSCAPES ARE DIFFERENT
 IN SEVERAL PROPERTIES FROM THE FOREST ANOMALOUS LANDSCAPES: WASHING OUT
 OF TRACE ELEMENTS FROM UPPER HORIZONS WAS OBSD. IN FOREST LANDSCAPES AND
 NOT IN THE STEPPE LANDSCAPES; BIOL. ABSORPTION IS HIGH FOR PB IN FOREST
 LANDSCAPES AND FOR MO AND SK IN THE STEPPE LANDSCAPES. FACILITY:
 V. I. VERNADSKII INST. GEOCHEM. ANAL. CHEM., MOSCOW, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--BIOGEOCHEMICAL STUDIES IN THE RUDNYI ALTAI -U-
AUTHOR-(02)-MALYUGA, D.P., AIVAZYAN, A.D.
COUNTRY OF INFO--USSR
SOURCE--GEOKHIMIYA 1970, (3), 364-71
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--ORE, GEOCHEMISTRY, BIOCHEMISTRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY KEEL/FRA--1996/0852 STEP NO--UR/0007/70/000/003/0364/0371
CIRC ACCESSION NO--AP0118028
UNCLASSIFIED

Acc. Nr:

AP0052536

Abstracting Service:

CHEMICAL ABST. 5-76

Ref. Code:

4P 0460

101359r Compatibility of poly(vinyl chloride) with butadiene-acrylonitrile rubbers. Aiyazov, A. B.; Mindiyarov, Kh. G.; Zelenov, Yu. V.; Organesov, Yu. G.; Raevskii, V. G. (Mosk. Gos. Pedagog. Inst. im. Lenina, Moscow, USSR). *Vysokomol. Soedin. Ser. B* 1970, 12(1), 10-14 (Russ.). NMR spectroscopy and detn. of the changes of the mech. loss angle in -50° to +100° interval established that the title polymers are miscible and compatible. At some component ratios, the mixts. have characteristics of binary systems. The obsd. phase transitions are due to glass temps of poly(vinyl chloride) at high temp. and of butadiene acrylonitrile copolymers at low temps.

CPR 100

REEL/FRAME

19821179

2/2 026

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107357

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DYNAMIC ELASTICITY MODULUS (E) AND TAN(MECH. LOSS ANGLE) WERE DETD. FOR BINARY (RUBBER PLASTIC) AND TERNARY (RUBBER, PLASTIC, CARBON BLACK (I)) SYSTEMS BY THE METHOD OF FORCED NON RESONATING VIBRATIONS. THE TEMP. DEPENDENCE OF E PERMITTED TO CALC. THE ACTIVATION ENERGY (U) OF E CHANGE. IN THE LOW TEMP. REGION (SIMILAR TO MINUS 50DEGREES) U IS 13.4-13.8 KCAL-MOLE; IN THE HIGH TEMP RANGE (SIMILAR TO 160-50DEGREES) U IS 21.9-28.7 KCAL-MOLE FOR THE FOLLOWING AND SIMILAR SYSTEMS: 100:20 SKI-3-POLYPROPYLENE (II); 100:15 SKMS-30-II; 100:60 SKI-3-I; 100:10:60 SKI-3-MARBON 8000 A-I; 100:10:60 SKI-3-POLY(VINYL CHLORIDE)-I.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--0200170
TITLE--DYNAMIC MECHANICAL PROPERTIES OF MULTICOMPONENT POLYMERIC
COMPOSITIONS -U-
AUTHOR-(05)-ALVAZOV, A.B., ZHIVAYEV, V.YA., NIKIFOROVA, A.V., ZELENEV,
YU.V., TYURINA, V.S.
COUNTRY OF INFO--USSR

SOURCE--MEKH. POLIM. 1970, 6(1), 138-41

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ELASTIC MODULUS, CARBON BLACK, POLYISOPRENE, POLYSTYRENE
RESIN, POLYPROPYLENE, POLYVINYL CHLORIDE, LOW TEMPERATURE EFFECT, HIGH
TEMPERATURE EFFECT/(U)SK13 POLYISOPRENE, (U)SKMS30 METHYLSTYRENE RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0815

STEP NO--UR/0374/70/006/001/0138/0141

CIRC ACCESSION NO--AP0107357

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--02 OCT 70

CIRC ACCESSION NO--AP0102765

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN CYTOPLASMIC MEMBRANCE AND NUCLEI OF RAT LIVER CELLS AMINE OXIDASE ACTIVITY IS FOUND; TYRAMINE, SEROTONIN, HISTAMINE AND LYSINE ARE READILY DEAMINATED. IN RAT LIVER NUCLEI DEAMINATION OF ADENOSINE, 5, MONOPHOSPHATE (AMP) IS ALSO NOTED. IN "MIXED SUBSTRATES" EXPERIMENTS COMPETITION BETWEEN SEROTONIN AND LYSINE IS OBSERVED; THE PHENOMENON IS NOT, HOWEVER, RECORDED IF ONE OF THESE SUBSTRATES IS SUBSTITUTED FOR AMP. DEAMINATION OF SEROTONIN BY AMINE OXIDASES FROM RAT LIVER NUCLEI IS PARTIALLY INHIBITED BY PARGYLINE (BUT NOT BY ISONIAZID). AMINE OXIDASE ACTIVITY IS PRESENT IN RAT LIVER CYTOPLASMIC MEMBRANES AND CELL NUCLEI DESTROYED BY SONICATION (ESPECIALLY IN NITROGEN ATMOSPHERE). SONICATION OF SUSPENSIONS OF PREVIOUSLY LYOPHYLIZED PREPARATIONS OF CYTOPLASMIC MEMBRANCE PRODUCES AMINE OXIDASE ACTIVITY CONTAINING PARTICLES WHICH ARE NOT SEDIMENTED IN ULTRACENTRIFUGE WITHIN 90 MIN AT 105,000 G.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--AMINE OXIDASE ACTIVITY IN CYTOPLASMIC MEMBRANES AND NUCLEI OF LIVER
CELLS -U-
AUTHOR-(04)-AITOVA, E.A., BRONSKAYA, L.M., GORKIN, V.Z., ELPINER, I.YE.
COUNTRY OF INFO--USSR A
SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, VOL 16, NR 2, PP 176-183
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LIVER, CYTOPLASM, CELL MEMBRANE, AMINE, OXIDASE, ISONIAZID

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REF/FRAME--1986/0802 STEP NO--UR/0301/10/016/002/0176/0183
CIRC ACCESSION NO--AP0102765
UNCLASSIFIED

Acc. Nr:

AP0048388

Abstracting Service:
CHEMICAL ABST. 5/70

Ref. Code:

UR 0151

A

S

94412x Epitaxial piezoelectric transducers. Morozov, A. I.;
Gingis, A. D.; Kotelyanskii, I. M.; Aitkhodzhi, S. A.; Panteleev,
V. V. (Inst. Radiotekh. Elektron., Moscow, USSR). *Fiz.*
Tverd. Tela 1970, 12(1), 109-13 (Russ). Epitaxial piezotrans-
ducers were prepd., based on CdS films grown by gas transport.
Frequency characteristics were investigated of these transducers
of longitudinal and transverse ultrasound waves at 10-600 MHz.
The dynamic range of such piezoelec. transducers is > 80 decibels.
The relative transmission band is 100-120%, with conversion
losses of 20-5 decibels. Good temp. stability was noted for these
transducers. Data are given on damping of longitudinal ultra-
sound waves in Ge at 80, 300, and 430°K. Prospects for appli-
cation of piezoelec. transducers are discussed. A. Libackyj /

BvK

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REEL/FRAME
19800096

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2/2 019

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128040

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SHOOTS OF PISUM SATIVUM WERE INCUBATED IN KH SUB2 PRIME32 PD SUB4 FOR 12 HR. AFTER STIRKING IN BUFFER (0.5M SUCROSE, 0.05M TRIS, 0.07M MGCL SUB2, 0.025M KCL, 0.005M MERCAPTOETHANOL), PH 7.6 SEPD. FRACTIONS OF RIBOSOMES WERE OBTAINED BY CENTRIFUGATION AND ULTRACENTRIFUGATION. RIBOSOME FRACTIONS WERE STUDIED BY UV SPECTROPHOTOMETRY AND RADIOACTIVITY MEASUREMENT. THE HIGHEST RADIOACTIVITY WAS FOUND IN HEAVY RIBOSOMES. MONO AND POLYRIBOSOME COMPONENTS WITH THE ACTIVITY OF 1.500, 1.460, AND 1.390 G-C4 PRIME3 WERE DETECTED. IT WAS CALCD. THERE ARE COMPLEXES OF MESSENGER RNA WITH PROTEIN IN RATIO OF 20 PERCENT RNA-80PERCENT OF PROTEIN, BECAUSE FREE RNA HAS THE ACTIVITY 1.400 G-C4 PRIME3.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--COMPLEXES OF MESSENGER RNA WITH PROTEIN IN THE POLYKISOMAL ZONE
OF PLANT CELL EXTRACTS -U-
AUTHOR-(U3)-AITKHEZHIN, M.A., KAZAROVA, L.M., BEKLEMISHEV, A.B.
COUNTRY OF INFO--USSR **A**
SOURCE--VESTN. AKADE. NAUK KAZ. SSR 1970, 26(3), 56-8
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RNA, PROTEIN, RIBOSOME, PLANT PHYSIOLOGY, UV
SPECTROPHOTOMETER, RADIOACTIVITY MEASUREMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/0470 STEP NO--UR/0031/70/026/003/0056/0058
CIRC ACCESSION NO--AP0128040
UNCLASSIFIED

USSR

AZERVAYEV, I. N., AITKHOZHAYEVA, M. ZH., TSOY, L. A.

"Method of Producing Mono-or Disubstituted Urea"

USSR Author's Certificate No 281454, field 28/07/69, published 19/03/71.
(Translated from Referativnyy Zhurnal Khimiya, No 4, Moscow, 1972, Abstract No 4N592P by T. A. Belyaeva).

Translation: Substituted ureas with the general formula $RNHC(O)NHC(R')-R''C=CH(I)$ ($R=H, Ph, C_6H_4Cl$; R' and R'' = lower alkyl or $CR'R''$ =cyclical radical) are produced by reacting nitrourea (II) or $RNCO$ (III) with substituted acetylene amine. 0.01 mol $Me_2C(NH_2)C=CH$ (IV) is added to a solution of 0.01 mol II in 4 ml water at about 20° , agitated 30 minutes at about 20° , then at $50-55^\circ$ until gas bubbles stop evolving, filtered, evaporated in a vacuum and I ($R=H, R'=R''=Me$), is separated, yield 70.7%, mp 151° (from water). Similarly, I is produced ($R=H$) (given are R', R'' , yield in %, mp in $^\circ C$): Me, Et, 77.2, 109; Me, Pr, 89.7, 64. Also produced is I [$R=H, R'R''C=cyclohexylidene$ (CHD)], yield 90.4%, mp 129° . 1.1 g III ($R=Ph$) is added to a solution of 0.88 g IV in 3 ml C_6H_6 with cooling, heated 40 minutes to $40-50^\circ$, cooled, evaporated and I is separated ($R'=R''=Me, R=Ph$), yield 85.1%, mp 153° (heptane). A similar process produces I (given are R, R', R'' , yield in %, mp in $^\circ C$: Ph, Me, Et, 86.1, 111; Ph, Me, Pr, 99.6, 104; m- ClC_6H_4 , Me, Me, 93.2, 144; m- ClC_6H_4 , Me, Et, 95.8, 123; m- ClC_6H_4 , Me, Pr, 99.8, 91; Ph, $R'R''C=CHD$, 95.3, 151; m- ClC_6H_4 , $R'R''C=CHD$ 98.1, 133.

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2/2 033
CIRC ACCESSION NO--AP0121134

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RADIOPROTECTIVE EFFECT OF
MEXAMINE (1) WAS EVALUATED QUANT. ON THE BASIS OF NOS. OF SURVIVING MICE
AND RATS. THE ANIMALS WERE IRRADIATED WITH 700, 800, 900, OR 1000 R 180
KEV X RAYS, AND 950 R OF 190 KEV R RAYS, OR 1100 R PRIME137 CS GAMMA
RAYS. I WAS APPLIED IN DOSES OF 1, 2.5, 5, 7.5, 15, 30 OR 75 MG-KG BODY
WT. AND 2.5, 5, 10, 20, OR 40 MIN PRIOR TO THE IRRADN. IN BOTH MICE AND
RATS, A SLIGHT PROTECTIVE EFFECT OF I WAS OBSERVED AT ALL DOSES
FOLLOWING I.P. APPLICATION. INCREASING DOSES OF I RESULT IN INCREASES
IN THE MAGNITUDE AND DURATION OF THE PROTECTIVE EFFECT. THE PROTECTIVE
ACTION APPLIES NOT ONLY TO THE BONE MARROW, BUT ALSO TO THE GASTRO
INTESTINAL SYNDROME. HOWEVER, THE DURATION OF THE PROTECTIVE ACTION IS
SHORT. WITH DIFFERENT I DOSES THE PERCENTAGE OF SURVIVING MICE
INCREASED FROM 0 TO 12-85PERCENT. FACILITY: INST. GIG. TRUDA
PROFAZABOL., MOSCOW, USSR.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--QUANTITATIVE CHARACTERISTICS OF THE RADIOPROTECTIVE EFFECT OF
MEXAMINE -U-
AUTHOR-(05)-YARMONENKO, S.P., SUVOROV, N.N., KAROCHKIN, B.B., AIRAPETYAN,
G.M., OVAKIMOV, V.G.
COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(2), 78-82

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTIRADIATION DRUG, AMINE DERIVATIVE, X RAY IRRADIATION, GAMMA
RADIATION, CESIUM ISOTOPE, RADIATION DOSAGE, BONE MARROW

CONTROL MARKING--NO RESTRICTIONS.

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0460

STEP NO--UR/0205/70/010/001/0073/0082

CIRC ACCESSION NO--AP0121134

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107459

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LITERATURE AND AUTHOR GENERATED TITLE DATA ARE COMPARED AND EVALUATED TO DET. WHAT FACTORS CONTROL THE PROCESS. THE VALUE OF THE EXPONENT (N) IN THE RELATION G_{SUBT} SIMILAR TO ΔP_{PRIMEN} , WHERE G_{SUBT} EQUALS PARTICLE DISCHARGE RATE AND ΔP EQUAL PRESSURE DROP ACROSS PARTICLE LAYER ABOVE THE FLUIDIZING HOLE, COMMONLY GIVEN AS N EQUALS 0.5 OR 0.6 WAS EXAMD.; N EQUALS 0.5 AND N EQUALS 1.5 WERE EQUALLY VALID AT FLUIDIZATION (W) NOS. APPROXIMATELY 0.5 AND 0.8-1.6, RESP. AN EQUATION A WAS DEVELOPED WHICH RELATES D_{SUBO-D} SUBEPSILON TO A WHERE D_{SUBO} EQUALS HOLE DIAM. FOR FLUIDIZED PARTICLE PASSAGE, $D_{SUBEPSILON}$ EQUALS PARTICLE EQUIV. DIAM., AND A IS A DIMENSIONAL CONST. OF SEVERAL VARIABLES. RESULTS OF A VS. D_{SUBO-D} SUBEPSILON ARE COMPARED FOR $D_{SUBEPSILON}$ EQUALS 0.15-0.80 MM; THESE SHOW THAT A IS DIRECTLY PROPORTIONAL TO, μ_{SUBP} , THE EFFECTIVE DISCHARGE COEFF. IN THE G_{SUBT} EQUATION DEVELOPED ON THE BASIS OF A LIQ. DROP MODEL. THE RESULTS ALSO CONFIRM THE VALIDITY OF THE BERNOULLI PRINCIPLE IN DETG. T SUBT WHICH CONTRADICTS THE L. MASSIMILLA (1961) FINDINGS.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DISCHARGE OF GRANULAR MATERIAL SOLIDS FROM A FLUIDIZED BED -U-
AUTHOR-(03)-GELPERIN, N.I., AINSHTEYN, V.G., LAPSHENKOV, G.I.
COUNTRY OF INFO--USSR
SOURCE--KHIM. TEKHNL. TOPL. MASEL 1970, 15(2), 39-41
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--FLUIDIZED BED, BERNOULLI EQUATION, LIQUID DROP MODEL,
MATHEMATIC MODEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0930 STEP NO--UR/0065/70/015/002/0039/0041
CIRC ACCESSION NO--AP0107459
UNCLASSIFIED

USSR

GOL'TSOV, V. A., et al, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 957-962

in formation of the K-state sharply change the diffusion coefficient D and the solubility of hydrogen S in Kh20N80 alloy. D decreases significantly, while S increases significantly, as a result of which the hydrogen permeability $p = D \cdot S$ is less sensitive to these changes in the structure of the alloys.

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- 48 -

USSR

UDC 669.15:518.576

GOLITSIN, V. A., KOSHELEVA, V. Yu., KAGAN, G. Yu., ANISHEVA, L. P.,
AINOV'YEVA, G. P., and GEL'D, P. V., Ural Polytechnical Institute imeni S. M.
Kirov

"Influence of the K-State on Diffusion and Solubility of Hydrogen and Mechanical Characteristics of Kh2CrNiO Alloy"

Moscow, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 957-962

Abstract: The temperature dependence of the modulus of elasticity and internal friction (300-650°), permeability, diffusion, and solubility of hydrogen (350-900 C) in Kh2CrNiO alloy was studied. The effects discovered were compared with results produced earlier on the influence of long- and short-range order and the K-state in alloys on the behavior of the hydrogen dissolved in them. It was determined that the modulus of elasticity and internal friction are sensitive to the formation and disruption of the K-state in nichrome. The activation energy for formation of the K-state, calculated on the basis of results of measurements of internal friction, is 1.2 Kcal/mol. This value agrees well with the activation energy calculated from measurement of hydrogen permeability (about 1.0 Kcal/mol). It was established that the atomic regroupings resulting

2/2 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133699

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. OBSERVATIONS WERE CARRIED OUT USING A PULSED FIELD TECHNIQUE WHICH MADE THE INTERPRETATION OF THE RESULTS SIMPLER. THIS TECHNIQUE OBVIATED THE NECESSITY TO OBTAIN EXACT MEASUREMENTS OF ABSOLUTE NQR FREQUENCIES. ALSO, FREQUENCY SHIFTS WOULD BE MEASURED IN WEAK FIELDS. FACILITY: PERM' STATE UNIV. USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INFLUENCE OF EXTERNAL ELECTRIC FIELD ON QUADRUPOLE SPIN ECHO -U-
AUTHOR-(02)-SVETLOV, YU.G., AINBINDER, N.E. A
COUNTRY OF INFO--USSR
SOURCE--JETP LETTERS (USA), VOL. 11, NO. 1, P. 15-18 (JAN. 1970)
DATE PUBLISHED----JAN70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--NUCLEAR RESONANCE, QUADRUPOLE MOMENT, ELECTRIC FIELD,
FREQUENCY SHIFTING, PERIODIC PULSE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1794 STEP NO--US/0000/70/011/001/0015/0018
CIRC ACCESSION NO--AP0133699
UNCLASSIFIED

USSR

UDC 681.327

ZHUKAUSKAS, K. P., AILMA, A. A., et al.

"Device for Reading Discrete Information from a Magnetic Carrier"

USSR Author's Certificate No. 275138, Filed 23/09/68, Published 6/10/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B403P).

Translation: The invention relates to the area of computer technology and is designed to be used in storage devices requiring readouts at low **carrier** rates. In known devices for reading of discrete information from magnetic media containing a flux-sensitive head with an interrogation winding placed in the aperture of a magnetic conductor and connected to the output of an excitation generator, narrow-band HF amplifier, synchronous amplitude detector, differentiating unit, and dual half-wave rectifier the phase of the output signal carrying the information depends on the residual magnetization of the head, which decreases the reliability of the device. In the device suggested, the narrow-band HF amplifier, synchronous amplitude detector, differentiating unit, and dual half-wave rectifier are connected in series, and a frequency doubler is connected to the second input of the synchronous amplitude detector, while the input of the doubler is connected to the output of the excitation generator. 1 fig.

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2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125216

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE 2 CONSTITUENTS OF THE NATURAL SILK (FIBROIN AND SERICIN (SILK GELATIN)) CONTAIN FREE CO SUB2 H GROUPS AND FROM SALTS WITH FE PRIME3 POSITIVE. THE IMMERSION OF SILK IN 1-2PERCENT FE SUB2 (SO SUB4) SUB3 SOLN. AT ROOM TEMP., FOLLOWED BY GRAFTING WITH METHACRYLIC ACID (I) OR VINYL ACETATE (II) IN THE PRESENCE OF H SUB2 O SUB2 AND THE REMOVAL OF I OR II HOMOPOLYMERS GAVE GRAFTED SILK CONTG. SMALLER THAN OR EQUAL TO 25PERCENT I OR SMALLER THAN OR EQUAL TO 5PERCENT II UNITS. THE ATTEMPTED GRAFTING OF SILK WITH H SUB2 C:CHCN OR H SUB2 C:CHCONH SUB2 WAS NOT SUCCESSFUL. ONLY SERICIN REACTS; THE REMOVAL OF IT FROM SILK LEFT FIBROIN, WHICH COULD NOT BE GRAFTED WITH ANY OF THE ABOVE 4 MONOMERS.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PREPARATION OF GRAFT COPOLYMERS OF NATURAL SILK -U-

AUTHOR-(03)-YUNUSOV, R.YU., YUNUSOV, L.YU., AIKHODZHAYEV, B.I.

COUNTRY OF INFO--USSR

SOURCE--IZB. KHIM. ZH. 1970, 14(1), 43-5

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--NATURAL FIBER, GRAFT POLYMERIZATION, METHACRYLIC ACID,
ACETATE, ACRYLONITRILE, AMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1594

STEP NO--UR/0291/70/014/001/0043/0045

CIRC ACCESSION NO--AP0125216

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0138702
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PARAFFIN CYCLOPARAFFIN CONTENTS IN
DEAROMATIZED PETROLEUMS FROM THE EASTERN SHORE OF THE CASPIAN SEA
(RESP., ZHETYBAI AND UZEN FROM THE MANGYSHLAK PENINSULA, KOTURTEPE AND
BARSAGEL'NES FROM WESTERN TURKMEN, AND SHURTEPE AND KARAKTAI FROM
BUKHARA) WERE SHOWN ON MICROFICHE. FACILITY: INST. KHIM.,
ASHKHABAD, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PETROLEUM HYDROCARBONS FORMING COMPLEXES WITH UREA -U-

AUTHOR-(03)-SERGIYENKO, S.R., AIDOGDYEV, A., GARBALINSKIY, V.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK TURKM. SSR, SER. FIZ-TEKH., KHIM. GEOL. NAUK 1970,
(3), 46-53

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--UREA, PETROLEUM PRODUCT, HYDROCARBON, ORGANIC COMPLEX
COMPOUND, PETROLEUM DEPOSIT, GEOGRAPHIC LOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3008/1729

STEP NO--UR/0202/10/000/003/0046/0053

CIRC ACCESSION NO--AP0138702

UNCLASSIFIED

USSR

AZIMOV, Sh. A., AHLEZINGER, M. I.

"Algorithm for Determination of the Contour of a Scanned Liver by Computer"

Vopr. Kibernetiki [Problems of Cybernetics -- Collection of Works], No 51, Tashkent, 1972, pp 94-100 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V718, by the authors).

Translation: An algorithm based on the theory of linear programming and particularly the theory of convex programming is suggested for determination of the true boundaries of an organ being studied. The mathematical foundation is presented for modes of smoothing and elimination of background noise from useful signal, as well as printer output of results.

USSR

CHICHENIN, P. I., Meditsinskiy Zhurnal Uzbekistana, No 1, Jan 73, pp 15-19

incidence of anthrax in the past 20 yrs, one can differentiate between three zones in the Uzbek SSR: I) A zone of stable incidence among humans and animals (Tashkentskaya, Surkhandar'inskaya, and Samarkandskaya Oblasts); II) A zone with periodic outbreaks (Andizhanskaya, Khorzemsкая, and Fashkadar'inskaya Oblasts and the KMSSR); III) The zone with the most satisfactory conditions (Bukharskaya, Syrdar'inskaya, Namanganskaya, and Ferganskaya Oblasts). The ratio of cases of human anthrax to those in the entire Uzbek SSR was 68.33, 35.25, and 2.42% in zone I, II, and III, respectively, and that of anthrax of animals 67.13, 32.02, and 0.85% in zone I, II, and III, respectively. In view of the fact that the infection remains in the soil, prophylactic measures in locations at which anthrax has occurred must be carried out constantly regardless of the time that has elapsed since the last outbreak and these measures reinforced at times at which digging into the ground takes place, e.g., in connection with agricultural irrigation.

USSR

CHICHEENIN, P. I., ADILOV, D. A., YUSUPOV, K. Yu., SHARIPOV, M. K., FUDIN, V. Ya. G., LI GVAN KHVA, V. T., JAZZHANOV, N. A., and BEMURAYEV, IM. D., Uzb. S. Scientific Research Institute of Epidemiology, Microbiology, and Infectious Diseases

"Epidemiological Characteristics of Anthrax in Uzbekistan During Recent Years"

Tashkent, Meditsinskii Zhurnal Uzbekistana, No 1, Jan 78, pp 15-19

Abstract: In 1949-60 the incidence of anthrax infection increased by a factor of three in the Uzbek SSR from that in 1909-48, mainly as a result of immunization of occupationally exposed persons. In recent years the overall incidence of anthrax among both humans and animals in the USSR has decreased by effective prophylactic measures. However, there is no reason for complacency, in view of the fact that there was in 1969-70 and especially in 1971-72 an increase in the relative weight of group infection connected with the uncontrolled utilization of meat and of other animal products, as well as of slaughter of diseased animals, particularly in the rural economy. During the period under consideration, the frequency of anthrax in the USSR was 10-11% that in the USSR by a factor of 3-4, with the number of cases in a single year comprising 10-11% of that in the entire USSR. On the basis of the above, the

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USSR

AGZAYOV, S. A., Chair of Diseases of the Ear, Throat, and Nose, Tashkent Medical Institute

"The State of Hearing Organs of Persons Employed in the Application of Toxic Chemicals in Agriculture"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 7, Jul 70, p. 15-16

Abstract: The effects of toxic agricultural chemicals on the hearing organs were studied. Two groups of workers were examined, one of which comprised aviators aged 20-45 and the other 70 workers employed in the application of toxic chemicals (15 women and 55 men). The first group adhered closely to precautionary measures. No abnormalities were found in either the upper respiratory tract or the hearing organs of this group. Many of the subjects in the second group complained of poor hearing and noise in their ears, although their upper respiratory tracts appeared to be normal. The second group had considerable exposure to the toxic chemicals and often did not adhere to the safety measures.

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Immunology

USSR

ADILOV, D. A., AGZAMOV, B. M., and BRAGINSKAYA, G. V., Uzbek Scientific Research Institute of Epidemiology, Microbiology, and Infectious Diseases

"The Use of Anthraxin in the Diagnosis of Anthrax"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 10, 1971, pp 64-66

Abstract: Immuno-allergic tests for anthrax were performed on 226 individuals by means of intradermal injections of an anthraxin solution and appropriate control tests. The anthraxin reaction was positive in 85 out of 100 patients with anthrax, while bacteriological tests were positive in only 49 of these patients. Of 58 individuals who had had anthrax 2 to 25 years ago, the anthraxin test was positive in 55. Among family members with exposure to anthrax, six out of 68 displayed positive anthraxin reaction, and subsequently collected anamnestic data revealed that all six had had a typical, atypical, or mild form of the disease in the past, without proper diagnosis. It is concluded that the anthraxin tests, which yield correct positive results twice as often as bacteriological tests and are easy to perform, should be applied in cases of suspected anthrax in order to ensure proper treatment and prevent an epidemic.

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USSR

ADILOV, D. A. and AGZAMOV, B. M., Meditsinskiy Zhurnal Uzbekistana, No 1, Jan 73
pp 19-22

100% of cases in the light, medium, and acute form of the disease, respectively. No relation between the extent of local tissue necrosis and the severity of the disease was evident. Fever developed in 4/5 of the patients. Tachycardia was observed in five patients with the acute form of the disease. The erythrocyte count and hemoglobin level were below normal in 2/3 of the cases. The leukocyte count was above normal in 46.1% of the patients, with its level rising with increasing severity of the disease.

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USSR

ADILOV, D. A., and ACZAMOV, B. M., Uzbek Scientific Research Institute of Epidemiology, Microbiology, and Infectious Diseases

"Some Clinical Aspects of Anthrax"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 1, Jan 73, pp 19-22

Abstract: The clinical aspects of anthrax beginning with a carbuncle on a hand were studied on 103 cases. In 2/3 of the cases the correct diagnosis and hospitalization were unduly delayed for reasons which included initial faulty diagnoses by physicians and failure of patients to seek medical aid early enough. Of the 103 cases, 59 were mild, 38 of medium severity, and 6 acute. While the majority of patients had a single carbuncle, a few of them had two carbuncles (one on each hand), and one patient had four. There was no statistically reliable relation between the number of carbuncles and the severity of the disease. The incubation period on infection was in the range of 1-15 days. It was 1-3 days in 65% of the cases. Formation of a papule and its change into a malignant pustule were more rapid in light cases than in cases of medium severity and acute cases. With increasing severity of the disease, a local edema formed earlier and the final extent of the edema increased. Swelling of the lymph glands (particularly under the arms) was observed in 52.4, 43.3, and 1/2

USSR

UDC 51.155.001.57.001

AGURSKIY, M. S.

"The Classification of Control Systems"

Sovrem. Probl. Kibernet. [Modern Problems of Cybernetics -- Collection of Works], Moscow, Nauka Press, 1970, pp 3-7 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V699 by the author).

Translation: If a clear classification of control systems were possible, in which the individual elements of the set systemitized formed non-intersecting subsets, it would be possible in estimating the economic effectiveness of control systems to analyze the effectiveness of individual classes of such systems according to properly selected standard representatives of each class. However, clear classification cannot be produced for any type of system. The uncertainty of classification is an empirical fact, resulting from the uncertainty of the parameters of each newly created system, which is a hypothesis of optimal parameters of assigned control. The impossibility in principle of producing a clear classification requires the introduction of a strictly individual economic estimate of each control system.

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Acc. Nr.

AP0036760

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code

UR 0068

A

69077j Determination of coal-tar naphthalene impurities by using gas-liquid chromatography. Maruch, L. L.; Agur'eva, O. A.; Zelenskaya, I. A. (USSR). *Koks Khim.* 1970, 11, 20-33 (Russ.). The stationary phase was Inzensk brick INZ-600 (0.25-0.50 mm grains) contg. 11-25% poly ethylene adipate) used in 4-6 mm X 2-4 m columns at 120-190°, depending on carrier gas and make of chromatograph. Acetophenone was the internal standard. A chromatogram with 17 peaks is presented, and an anal. with 33 compds. Indole was detd. sep. with the same column at a higher temp. (190-225°) with acenaphthene as standard. By extrapolation of the m.ps. of impure naphthalenes, the m.p. of the pure compd. was found to be 80.4°.

Graf Thomsen

REF. FRAME

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AA0040640

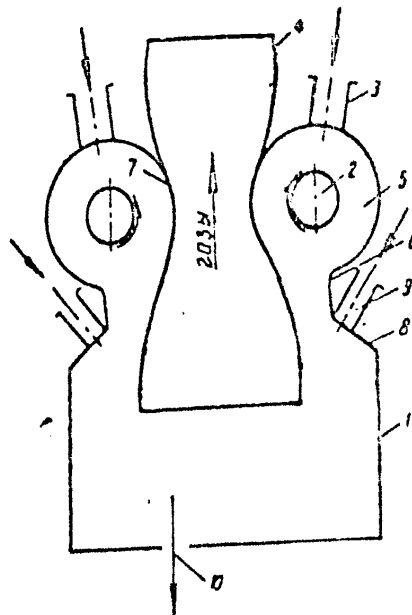
AUTHORS: Tonkonogiy, A. V.; Vyshenskiy, V. V.; Balfanbayev, B. I.
Tolmachev, I. Ya.; Agureykin, S. S.; and Ismayeva, S. A.
Kazakhskiy Nauchno - Issledovatel'skiy Institut Energetiki

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MO040640- AGUREYKIN S.S. UR 0482

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Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

242312 CYCLONE FURNACE is more effective for treatment of charges containing a large number of components. It consists of a cylindrical shell 1 with connection 2 for fuel and air feed and connections 3 for filling the charge. The products of combustion go out through a centre tube 4 which has a contraction 7. The shell has enlargements 5 and contractions 6 and again an enlargement 8. The connections 9 are for feeding additional charge. The melt is discharged through a gate 10. The first charge is fed through the connections 3 and due to the heat in pockets 5, precious volatile components are separated. Second charge is fed through the connections 9.

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8.6.67 as 1166428/24-6. A.V.TONKONOGY et alia. POWER RES.INST.IN KAZACHSTAN (9.9.69) Bul 15/25.4.69. Class 241, 31a. Int.Cl.F 23c, F 27d.

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18

19750211

USSR

UDC 547.26'118+547.279.1

TEVELEV, G. Kh., GRINSHTEYN, Ye. I., KOIFMAN, L. P., SOKAL'SKIY, M. A.,
~~AGURTSYEV, V. G.~~, and SINITSYNA, N. T.

"Addition of S- β -Mercaptoethyl 0,0'-Dialkyl Dithiophosphates to Substituted Olefins"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 308-314

Abstract: It is shown that S- β -mercaptoethyl 0,0'-dialkyl dithiophosphates add to esters of maleic, acrylic and methacrylic acids as well as to substituted anides of acetic acid in the presence of catalysts -- salts of transition metals -- with formation of the corresponding substituted S- β -alkyl-mercaptoethyl 0,0'-dialkyl dithiophosphates. Analysis shows that the addition reaction takes place contrary to Markovnikov's rule, with the formation of products which are unbranched in the S- β -alkyl radical.

USSR

UDC 539.389

LEPIN, G. F., TIKHONOV, A. P., and ACULOV, V. T.

"Optimal Deformational Strengthening of Metals and Alloys in the Presence of Creep"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan/Feb 73, pp 76-79

Abstract: A theoretical method is suggested for a solution to the question of the behavior of metals under high temperatures and loadings after preliminary deformation at certain temperature and stresses. From the interrelation between the value of optimal preliminary deformation and stresses, the following equation of minimal creep deformation is derived:

$$\dot{\epsilon} = m \left(\beta / 1 - \exp \left(- \frac{ak\beta}{1 - n} \right) \right)^{1-m} \exp \left(ak\beta / 1 - \exp \left(- \frac{ak\beta}{1 - n} \right) \right)$$

where a , n , k are the heat-resistant characteristics of a metal at a given temperature; $\beta = \sigma_0 \epsilon$ (σ_0 is the initial stress in a sample subjected to loading, ϵ is the relative plastic deformation). This equation when it is possible to solve a great number of problems encountered in design work. As an example, the creep curves of the E143/B alloy at 650°C calculated from the above equation are presented.

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UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124060

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MECHANISM RESPONSIBLE FOR THE INFLUENCE OF SURFACE ACTIVE SUBSTANCES ON THE ELECTROCHEMICAL BEHAVIOUR OF THE NEGATIVE ELECTRODE IN A PB ACCUMULATOR WAS STUDIED BY THE POTENTIODYNAMIC METHOD. DIFFERENT ADDITIVES WERE DISTINGUISHED BY DIFFERENT EFFECTS ON THE SURFACE TEXTURE OF THE PB ELECTRODE (ITS LOOSENESS, PARTICLE SIZE, ETC.), AND THESE DIFFERENCES WERE REFLECTED CLEARLY IN THE FORM OF THE POTENTIODYNAMIC CHARACTERISTICS. THE METHOD EMPLOYED ENABLED CHANGES IN BOTH THE CATHODIC AND THE ANODIC BEHAVIOUR OF THE PB ELECTRODES DUE TO THE ADSORPTION OF ORGANIC ADDITIVES TO BE DETERMINED UNAMBIGUOUSLY IN A SINGLE EXPERIMENT.

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PROCESSING DATE--20NOV70

TITLE--POTENTIODYNAMIC METHOD OF STUDYING THE EFFECT OF SURFACE ACTIVE
SUBSTANCES ON THE OPERATION OF THE NEGATIVE ELECTRODE OF A LEAD

AUTHOR--(02)-OZHIGANOVA, N.N., AGUF, I.A.

COUNTRY OF INFO--USSR

SOURCE--ELEKTRIKHIMIYA. FEB. 1970, 6, (2), 239-242

DATE PUBLISHED----FEB70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TCPIC TAGS--SURFACE ACTIVE AGENT, LEAD, METAL ELECTRODE, ELECTROCHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0301

STEP NO--UR/0364/70/006/002/0239/0242

CIRC ACCESSION NO--AP0124060

UNCLASSIFIED

USSR

UDC 621.355.2.035.2:620.197.3

OZHIGANOVA, N. N., AGUI, I. A., BASOYAN, H. A., MILYUTIN, N. N.

"Potentiodynamic Study of the Effect of Certain Inhibitors on the Electrochemical Behavior of a Lead Electrode"

Sb. rabot po khim. ierodinamike toka. N.-I. akkumulyator. in-1 (Collected Works on Chemical Current Sources. Scientific Research Battery Institute), 1971, vyp. 6, 22-27 (from RSh-Chimiya, No 6 (11), Jun 72, Abstract No 62342)

Translation: A study was made of the effect of three self-discharge inhibitors: α -naphthol, sulfonol and α -nitroso- β -naphthol on the kinetics of processes taking place on the negative electrode of a lead battery. The potentiostatic curves taken in a broad range of potentials of the given electrodes are presented. The theoretical interpretation of these curves permitted some information to be obtained on the mechanism of the effect of the indicated surface-active substance on the cathode and anode behavior in H_2SO_4 .

USSR

UDC (621.317.77+621.317.619)(082.8)

AMOSKIN, V. I., BEROV, E. Ya., EVANSKICH, P. M., EROSKIN, Ya. I.

"A Device for Determining the Time Position of Radio Pulses and Measurement of the Phase of the Carrier Frequency"

USSR Author's Certificate No 265987, filed 10 Nov 67, Published 1 Jul 71 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7A3541)

Translation: This Author's Certificate introduces a device for determining the time position of radio pulses and measuring the phase of the carrier frequency. The device contains a single-channel superheterodyne receiver with a phase meter and phase detector at the output. Also incorporated in the device is a tracking system for measuring the time position. To ensure the possibility of operation under conditions of jitter, and to improve the reliability of the device, the heterodyne input of the radio receiver is connected to a source of amplified heterodyne voltages through an operating mode selector and three electronic switches, the controlling inputs of two of the switches being connected to the outputs of the tracking system through a gating pulse generator, while the controlling input of the third switch is connected to these outputs directly. The receiver output is connected to the phase meter and phase detector through an operating mode selector like that connected in the heterodyne circuit. Resumé.

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USSR

AGROSKIN, L.S., et al, Doklady Akademii Nauk SSSR, Vol 197, No 1, Mar 71, pp 62-65

The authors describe and illustrate graphically the design of such an instrument. The specifics of the optical circuit make this instrument a reliable one that is free of the errors associated with ordinary instruments of this type.

They give graphs of the spectra of mirror reflection of various samples (Fig 2) and the spectra of reflection and transmission of a multilayer mirror film (Fig 3).

The article has 3 figures and a bibliography of 2 titles.

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USSR

UDC 535.243

AGROSKIN, L.S., PAPAYAN, G.V., and RAUTIAN, L.I.

"An Absolute Microspectroreflectometer"

Moscow, Doklady Akademii Nauk SSSR, Vol 197, No 1, Mar 71,
pp 62-65

Abstract: Measuring the dispersion in reflectivity under a microscope is one of the basic diagnostic problems for any branch of science where the coefficients of mirror reflection must be determined for small objects or small segments of large samples. Although a formula exists for determining the spectral coefficients of reflection it is not applicable for use in ordinary microreflectometers and must be converted by using the known coefficients of a standard etalon. Since this complicates the computations and introduces a number of uncontrollable errors it seemed highly desirable that an absolute microspectroreflectometer be designed that would not involve the use of an etalon.

USSR

UDC 578.066:578.088.5

AGROSKIN, L. S.

"A Universal Microphotometric Attachment"

Leningrad, Tsitologiya, Vol 13, No 12, Dec 71, pp 1,531-1,534

Abstract: The majority of microphotometric attachments being used at present are based on the mirror scheme proposed in 1958. They are designed for the photometry of a microscope's visual field at definite points and have a common drawback: one cannot change smoothly and control precisely the size of the area being subjected to photometry. An attachment to a microscope has been developed which makes it possible to vary continuously the area being subjected to photometry -- for instance, in cytophotometric measurements on an MBB-1 microscope. This is accomplished by means of a mirror diaphragm of the cat's eye type. Use of an attachment of the new type makes unnecessary the interchange of replaceable mirrors with openings of different sizes.

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2/2 032

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134672

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PREPN. OF THE CATALYST WAS DESCRIBED EARLIER (G. P. CHERNYUK, ET AL., 1970). THE CATALYST ACTIVITY DEPENDS LARGELY ON ITS ACTIVATION (OR REGENERATION) TEMP.; THE OPTIMUM IS 900DEGREES FOR 1-2 HR. DUE TO HIGH CATALYST ACTIVITY ITS SP. SURFACE AREA HAS LITTLE EFFECT ON THE REACTION RATE, AND SPACE VOL. VELOCITIES LESS THAN OR EQUALS TO 30,000 HR PRIME NEGATIVE1 ARE POSSIBLE ON THE SOLID BED CATALYSTS. THE CATALYST SHOULD CONTAIN 20-5PERCENT CU; LOWER AMTS. OF CU PROMOTE THE FORMATION OF H AND ETHYLENE AS WELL AS OF THE SOLID POLYACETYLENES (I). THE EFFECT OF TEMP. ON THE REACTION RATE CONST. IS GIVEN BY $K \text{ EQUALS } 11.34 \text{ EXP}(\text{MINUS } 5100\text{-RT})$. THE POLYMN. ACTIVATION ENERGY AND THE EXOTHERMIC HEAT OF REACTION ARE 5 PLUS OR MINUS 1 AND 60-70 KCAL-MOLE RESP. THE HEAT OF I COMBUSTION IS 9-10 KACL-G, WHICH SUGGESTS THAT ON THE INDUSTRIAL SCALE THE FLUIDIZED CATALYST BEDS ARE NECESSARY FOR ADEQUATE HEAT DISSIPATION DURING BOTH THE POLYMN. AND REGENERATION CYCLES.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--REMOVAL OF ACETYLENE IMPURITIES FROM GASEOUS HYDROCARBONS,
POLYMERIZATION OF ACETYLENE ON A COPPER ALUMINUM SPINEL CATALYST -U-
AUTHOR--(03)-CHERNYUK, G.P., AGROSKIN, I.I., FLID, R.M.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(2), 201-8 A

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMERIZATION, ACETYLENE, CATALYST ACTIVITY, HYDROGEN,
ETHYLENE, COPPER, HEAT OF REACTION, CATALYST REGENERATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3006/0954

STEP NO--UR/0204/70/010/002/0201/0208

CIRC ACCESSION NO--AP0134672

UNCLASSIFIED

USSR

A
UDC 621.791(047):629.12

GORBACHEV, I. V., and AGRONOMOV, S. N.

"The Dal'zavod Plant, Pioneer in the Use of Welding in Shipbuilding."

Moscow, Svarochnoye Proizvodstvo, No 4, Apr 70, pp 29-30

Abstract: Since 1920 the "Dal'zavod" plant (shipyard) has pioneered in the use of electrowelding in shipbuilding and ship repair, during which time it has conducted original and collaborative research in this field, and has produced various new equipment. In most instances, research has been in collaboration with the General Scientific Research Institute of Welding Technology (TSNIIS), the Institute of Electrowelding imeni Ye. O. Paton (IES) and the Far Eastern Polytechnic Institute. The plant produced the country's first all-welded tugboat in 1939. All varieties of welding have been mastered in order to accommodate the large variety of ships handled by the plant--all Soviet and many foreign types. Special attention has been given to carbon-dioxide welding (for thin-sheet structures) and to both manual and mechanized argon-arc welding of hull elements (from aluminum alloys) as well as copper-nickel alloy conduits. The plant has introduced new techniques for repairing alloy screw propellers, using semi-automatic argon-arc welding. For several years research has been conducted on the gas-electric cutting of non-ferrous metals and stainless steel, along with the development of the required equipment.

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Acc. Nr.

AP0105538

Abstracting Service:
CHEMICAL ABST.

Ref. Code

4R0449

126931j Optical absorption in relation to lattice defects in cadmium telluride crystals. Agrinskaya, N. V.; Arkad'eva, E. N.; Matveev, O. A. (Fiz.-Tekh. Inst. im. Lofe, Leningrad, USSR). *Fiz. Tekh. Poluprov.* 1970, 4(2), 370-2 (Russ). The transmittance of CdTe crystals was measured in the region 0.8-1.6 μ at 77 and 300°K. Four groups of crystals were studied. The 1st 3 groups had different position of Fermi level: (1) *p*-type, $E_f = E_v + (0.15-0.35)$ eV, (2) *p*-type, $E_f = E_v + (0.55-0.60)$ eV, and (3) *n*-type, $E_f = E_c - (0.6-0.7)$ eV. The 4th group included *n*-type crystals compensated by annealing in Te vapor with energy level $E_d \sim E_c - 0.01$ eV. The curves of the spectral dependence of absorption coeff. are analyzed in terms of energy levels assocd. with estd. electron transitions, and the nature of relevant centers is discussed. The centers with $E_c - (0.6-0.7)$ eV level are assumed to be due to double-neg. charged Cd vacancies V_{Cd}'' . The centers with $E_v + 0.55$ eV level may be connected with donor-type defects which are introduced simultaneously with acceptors and compensated them. The centers with $E_v + (0.15-0.16)$ eV level are ascribed to the V_{Cd}' defects or $(V_{Cd}-In)'$ complexes. L. Koudelka

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19880553

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Acc. Nr:

AP0034219

Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code:

UR 0078

A

71216x Extraction of molybdenum(VI) and rhenium(VII) from inorganic acid solutions by tertiary amines. Anokhina, L. G.; Agrinskaya, N. A.; Petrashen, V. I. /Kafedra Anal. Khim., Novocherkassk. Politekn. Inst., Novocherkassk, USSR/. Zh. Neorg. Khim. 1970, 15(1), 155-60 (Russ). Mo(VI) and Re(VI) were extd. by PhMe solns. of dioctylmethylamine (I) or trioctylamine (II) from HCl, HNO₃, or H₂SO₄ solns. The degree of extn. decreased with acids in the order: H₂SO₄ > HCl > HNO₃. For I the max. extractability was obtained: 88-90% at pH 2.1-2.6 in HNO₃ and 97-80% at pH 2.0-3.0 in H₂SO₄ solns. II is a better extg. agent than I.

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REEL/FRAME

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USSR

UDC 661.882:669.295.4:541.183

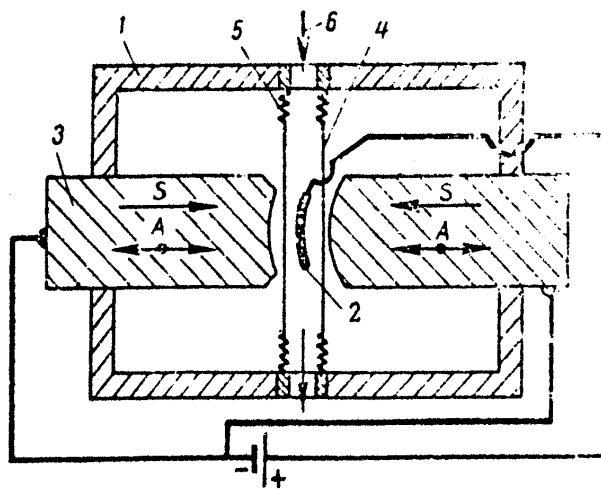
GOLUBKOV, YU. V., AGRINSKAYA, L. N., KOROIEV, V. V., and NISSEN, L. A.
Scientific Research and Development State Institute of Rare Metal Industry

"Investigation of the Adsorption Purification of Titanium Tetrachloride"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 45, No 8, Aug 72, pp 1661-1664

Abstract: To purify titanium tetrachloride from various admixtures, a combination of chemical processes and fractional distillation is used in industry. An investigation of the statics and dynamics of adsorption purification over BAU activated charcoal showed that this method is more efficient in removing the impurities VOCl_3 , Si_2OCl_6 , and CCl_3COCl . The BAU charcoal column must be at least 130 cm high for an effective separation of TiCl_4 from above impurities.

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UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241876 ELECTROCHEMICAL CONTOUR MACHINING is carried out in chamber 1 containing workpiece 2, and tool-electrodes 3. Dielectric screen 4 in the gap between the workpiece and the electrode is suspended by elastic element 5, the interelectrode space filled with electrolyte 6. During the machining, the electrodes are vibrated with an amplitude ensuring a soft contact with the workpiece across the dielectric grid 4 with electrolyte trapped in its meshes. This results in anodic dissolution of the machined surface, followed by electrode withdrawal and intensive electrolyte regeneration in the gap.

7.2.68 as 1217763/25-8. A.K. SVINOV et alia(3.9.69)
Bul 14/18.4.69. Class 48a. Int.Cl.C 23b.

18

AUTHORS: Svinov, A. K.; Agrest, Ye. A.; Mordekhay, V. M.;

Shirokikh, V. G.; and Verpukhovskiy, A. G.

19750412

AA0040672

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UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241875 FINE ELECTROCHEMICAL MACHINING of round parts features a dielectric grid placed at the working surface of the electrode, which revolves due to frictional contact with the component. The grid may be made of hard rubber or other synthetic material, and the electrolyte is pumped into the interelectrode gap. The constant contact of electrodes with the workpiece may be ensured by a counterweight, spring or other means.
5.2.68 as 1216953/25-8. V.G.SHIROKIKH et alia.
(27.8.69) Bul 14/18.4.69. Class 48a. Int.Cl.C 23b.

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AUTHORS: Shirokikh, V. G.; Mordekhay, V. M.; Verpukhovskiy, A. G.;
and Agrest, Ye. A.

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